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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/695,306

10/28/2003

David Punsalan

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08/05/2005

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

DANG, PHUC T

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/695,306

Applicant(s)

PUNSALAN ET AL.

Examiner

PHUC T. DANG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed on June 29, 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-23, 25-46, 48-51, 53 and 55 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 24, 47, 52 and 54 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>061305</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Request for Continued Examination (RCE)

1. Request for Continued Examination (RCE) filed on June 29, 2005 has been considered.

In Request for Continued Examination (RCE), Applicants amended claims 1-4, 23-25, 42-43 and 45-47 and added new claims 50-55.

Claims 1-55 are currently pending in the application.

Information Disclosure Statement

2. The office acknowledges receipt of the following items from the applicant:

Information Disclosure Statement (IDS) filed on June 13, 2005.

Specification

3. The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1, 4-22, 42-43, 45-46, 51 and 53 are rejected under 35 U.S.C. 102 (b) as being anticipated by Sharma et al., hereinafter "Sharma" (U.S. Patent No. 5,021,398).

Regarding claims 1, 21-22, 42-43, 45-46, 51 and 53, Sharma discloses a method to produce a patterned superconducting solid comprising:

depositing a liquid precursor solution onto a substrate, thereby forming a liquid film, the liquid precursor solution having at least one soluble inorganic metal salt dissolved into a photoresist;

patterning the liquid film; and

heating the patterned liquid film, thereby producing the patterned ceramic film; wherein the patterned ceramic film is adapted for use as at least one of ion-conducting ceramics, electrodes, hard ceramic coatings, transparent conducting oxides, transparent semiconducting oxides, ferroelectric oxides, and dielectric oxides [col. 9, line 52-col. 11, line 42].

Regarding claim 4, Sharma discloses wherein the at least one soluble inorganic metal salt is substantially completely dissolved into the photoresist, wherein the liquid precursor solution is substantially fully miscible [col. 8, lines 54-58].

Regarding claim 5, Sharma discloses wherein at least one additive is mixed into the liquid precursor solution [col. 14, lines 35-39].

Regarding claim 6, Sharma discloses wherein the at least one additive is at least one of 2,5 dimethyl 2,5-di-t-butylperoxy hexane and alpha, alpha-dimethoxy-alpha-phenylacetophenone [col. 24, lines 63-67].

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Regarding claim 7, Sharma discloses wherein the photoresist is at least one of diacrylates, polyvinylphenol (PVP), poly(4-vinylphenol), poly(4-hydroxystyrene), DNQ (diazonaphthoquinone)-Novolaks, and mixtures [col. 14, lines 52-54].

Regarding claims 8-9, Sharma discloses the thickness of the liquid film and the patterned ceramic [col. 9, lines 62-65].

Regarding claims 10 and 14-15, Sharma discloses wherein patterning comprises masking a predetermined portion of the liquid film, wherein the liquid film has a masked portion and an unmasked portion; exposing the liquid film to a light source, whereby one of the masked portion and the unmasked portion is cured; and removing the uncured portion by stripping with isopropyl [Figs. 1A-1F and col. 10, lines 32+].

Regarding claims 11-13, Sharma discloses the process comprises baking the exposed liquid film at a temperature between 50 to 250°C [col. 18, lines 19-21].

Regarding claims 16-18, Sharma discloses heating accomplished by firing the patterned liquid film at a temperature between 540 to 1050°C [col. 10, lines 32-55].

Regarding claim 19, Sharma discloses the substrate is at least one of silicon, single crystal silicon, polycrystalline silicon, silicon oxide containing dielectric substrates, alumina, sapphire, ceramic and mixtures thereof [col. 1, line 58].

Regarding claim 20, Sharma discloses the depositing is accomplished by one of spin coating, screen printing, dip coating, meniscus coating, and spray coating [col. 9, lines 57-58].

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 23-28, and 30-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma in view of Asakawa et al., hereinafter "Asakawa" (U.S. Patent No. 6,565,763).

Regarding claims 23 and 41, Sharma discloses all the features of the claimed invention as discussed above, but does not disclose at least one electrode operatively disposed in the fuel cell connected to a load and an electrolyte in electromechanical contact with the at least one electrode, wherein at least one of the electrode and the electrolyte comprises a patterned ceramic film.

Asakawa, however, discloses at least one electrode operatively disposed in the fuel cell connected to a load 206 and an electrolyte in electromechanical contact with the at least one electrode, wherein at least one of the electrode and the electrolyte comprises a patterned ceramic film [col. 4, lines 26-43].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the above discussed teaching of Sharma as taught by Asakawa for a purpose of improving a process.

Regarding claims 28, Asakawa discloses the electrode is at least one of anode 11 and a cathode 14 [Fig. 7].

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It would have been obvious to one having ordinary skilled in the art at the time the invention was made to modify the above discussed teaching of Sharma as taught by Asakawa for a purpose of improving a process.

Regarding claims 25-28, and 30-41, 44, and 48-49 are rejected to similar to claims 4-19 above.

6. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma and Asakawa in view of Lu (U.S. Patent No. 6,177,357).

Sahrma discloses all the features of the claimed invention as discussed above, but does not disclose the photoresist is tetraethylene glycol diacrylate.

Kasano, however, discloses the photoresist is tetraethylene glycol diacrylate [col. 3, lines 15-23].

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to modify the above discussed teaching of Sharma as taught by Lu for a purpose of improving a etchant process.

7. Claims 50 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma in view of Kasano et al., hereinafter "Kasano" (U.S. Patent No. 6,194,129).

Sahrma discloses all the features of the claimed invention as discussed above, but does not disclose the photoresist is not water-soluble.

Kasano, however, discloses the photoresist is not water-soluble [col. 2, lines 50-55].

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It would have been obvious to one having ordinary skilled in the art at the time the invention was made to modify the above discussed teaching of Sharma as taught by Kasano for a purpose of improving a process.

Allowable Subject Matter

8. The following is a statement of reason for the indication of allowable subject matter:

Claims 2-3, 24, 47, 52 and 54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

None of the prior art made of record does not disclose wherein the at least one soluble-inorganic metal salt includes a metal cation and a salt anion. and wherein the salt anion comprises at least one of nitrates, sulfates, chlorides, and mixtures as cited in claims 2, 52 and 54 and wherein the at least one soluble inorganic metal salt is at least one of cerium nitrate and samarium nitrate as cited in claims 24 and 47.

Claim 3 is depend on claim 2, then, it also would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuc T. Dang whose telephone number is (571) 272-1776. The examiner can normally be reached on 8:00 am-5:00 pm.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone numbers for the organization

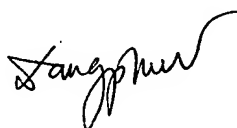
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where this application or proceeding is assigned are 571-273-8300 for regular communications and After Final communications.

11. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Phuc T. Dang

PD



Primary Examiner

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